

Bank Account

A customer opens a bank account in a bank.

After opening the account the customer can withdraw, deposit and check his balance at any time he wants. The bank charges a fee of 10kr. for every withdraw a customer makes. The Customer can not withdraw more money than is on the account including the fee. The bank also has an interest rate of 8.5%, which is used for calculating a certain amount of interest on the amount deposited by the customer.

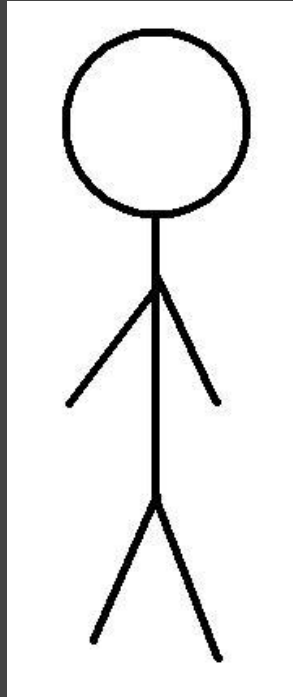
Use Case Diagram

Identificer Actors og Use Cases

En grafisk repræsentation af alle Use Cases og alle Actors

Use Case Diagram

Actor:



Use Case Diagram

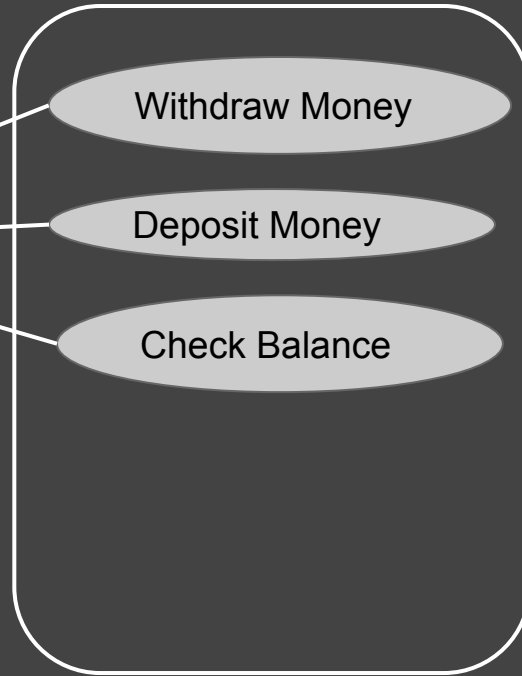
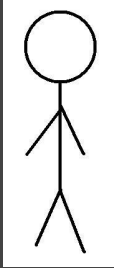
Use Case:



Withdraw Money

Use Case Diagram

Primary Actor
Customer

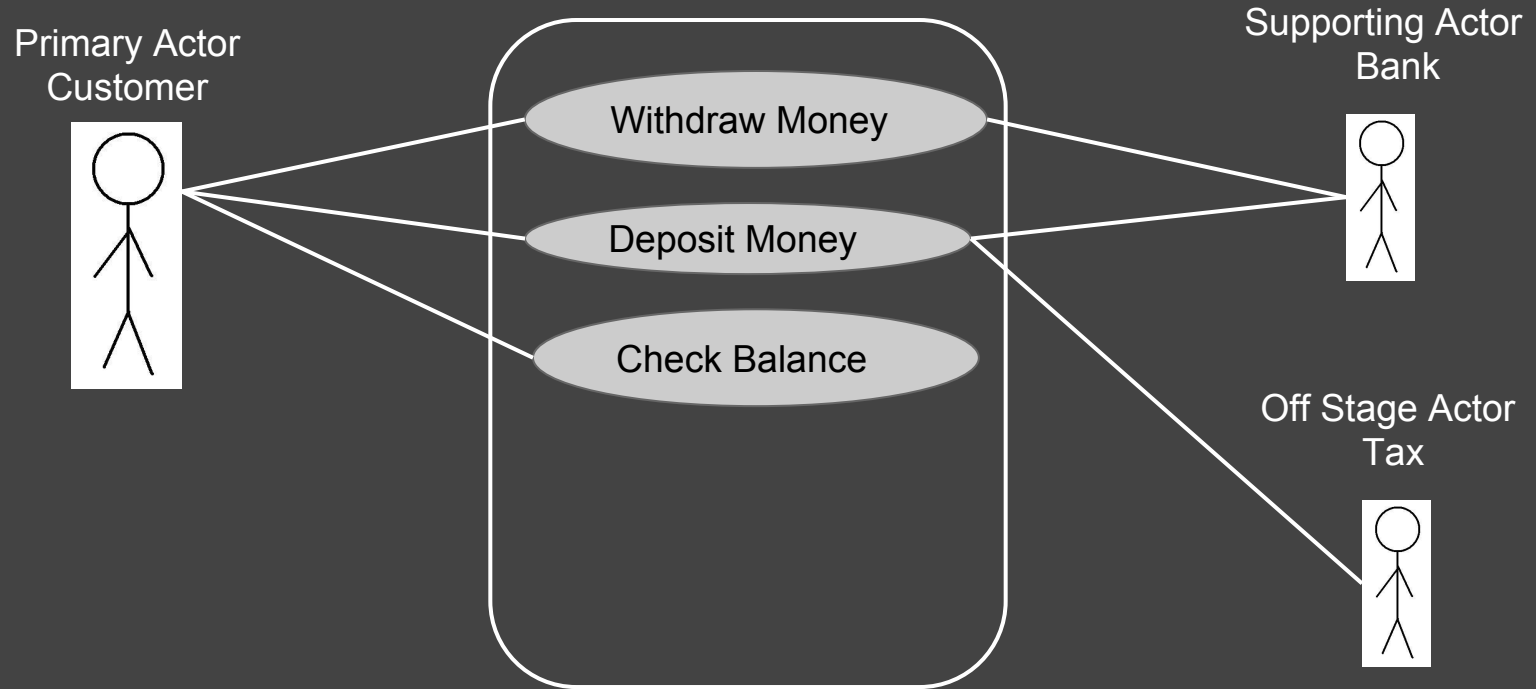


Use Case Diagram

Three Kinds of Actors

1. Primary actor
 - a. has user goals fulfilled through using services of the system under discussion drives the use cases
2. Supporting actor
 - a. provides a service to the system under discussion e.g., payment authorization service implies: clarification of external interfaces and protocols needed
3. Offstage actor
 - a. has an interest in the behavior of the use case, but is not primary or supporting e.g., a government tax agency

Use Case Diagram



Use Cases

UC#1: Withdraw Money

Actor: Customer

Customer requests to withdraw money from his account and specifies the amount.

The bank puts on a fee of 10 kr. when a withdrawal is made, so the customer gets the requested amount, and the fee is subducted on the remaining balance of the account.

Use Cases

UC#2: Deposit Money

Actor: Customer

The Customer requests to deposit money. The bank calculates the interest based on the interest rate and the amount just deposited, the interest and the amount is summed. The sum is then added to the account balance.

Use Cases

UC#3: Check Balance

Actor: Customer

Customer requests to see the balance of his account.

The account number and name of the customer together with the balance is displayed.

Exercise:

Car Wash Use Case Diagram

Nouns

Customer, Money,
Account, Amount,
Bank, Fee, Balance,
Error message,
interest, interest rate,
Account Number,
Customer Name,

Customer
 name
Account
 balance
 accountNumber
Bank
 fee
 interest rate

Nouns

Customer, ~~Money~~,
Account, ~~Amount~~,
Bank, Fee, Balance,
~~Error message~~,
~~interest~~, interest rate,
Account Number,
Customer Name,

Customer
 name
Account
 balance
 accountNumber
Bank
 fee
 interest rate

Domain Model

Costumer

name

Account

Account Number
Balance

Bank

Fee
Interest Rate

Verbs = Actions = Methods

Withdraw

get fee

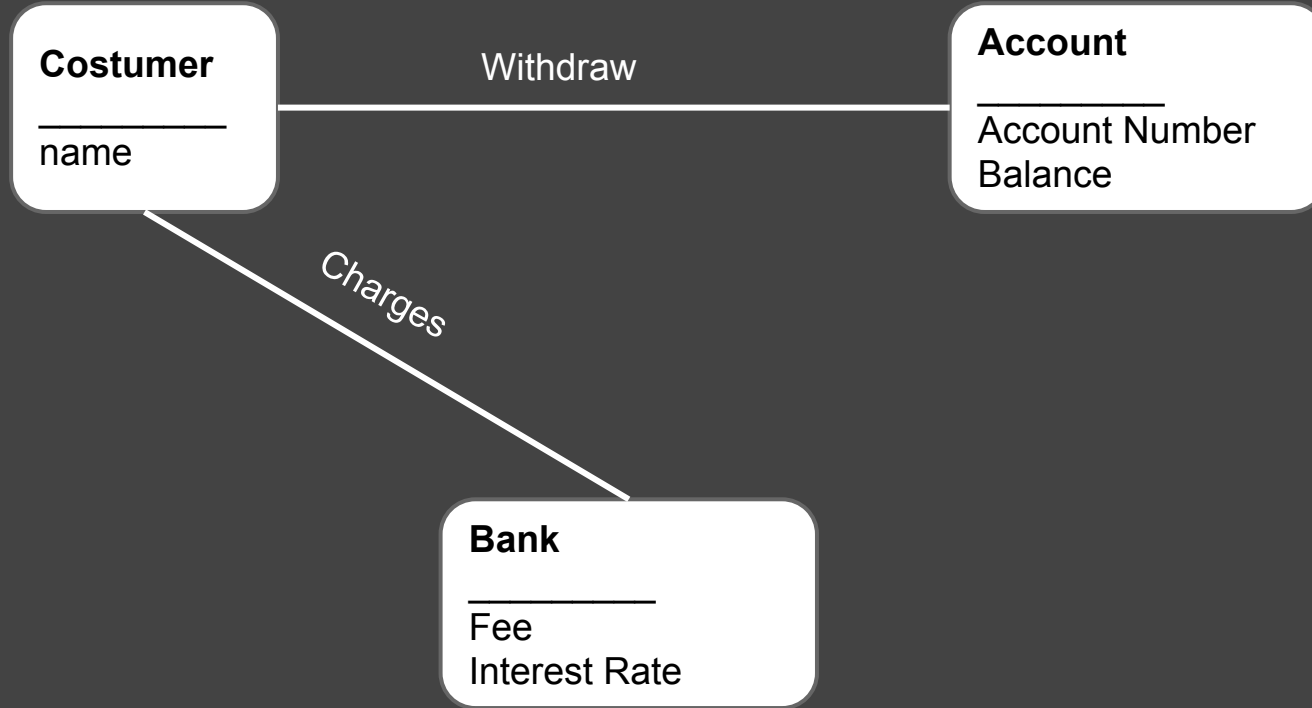
Deposit

Calculate interest

Add to balance

Check Balance

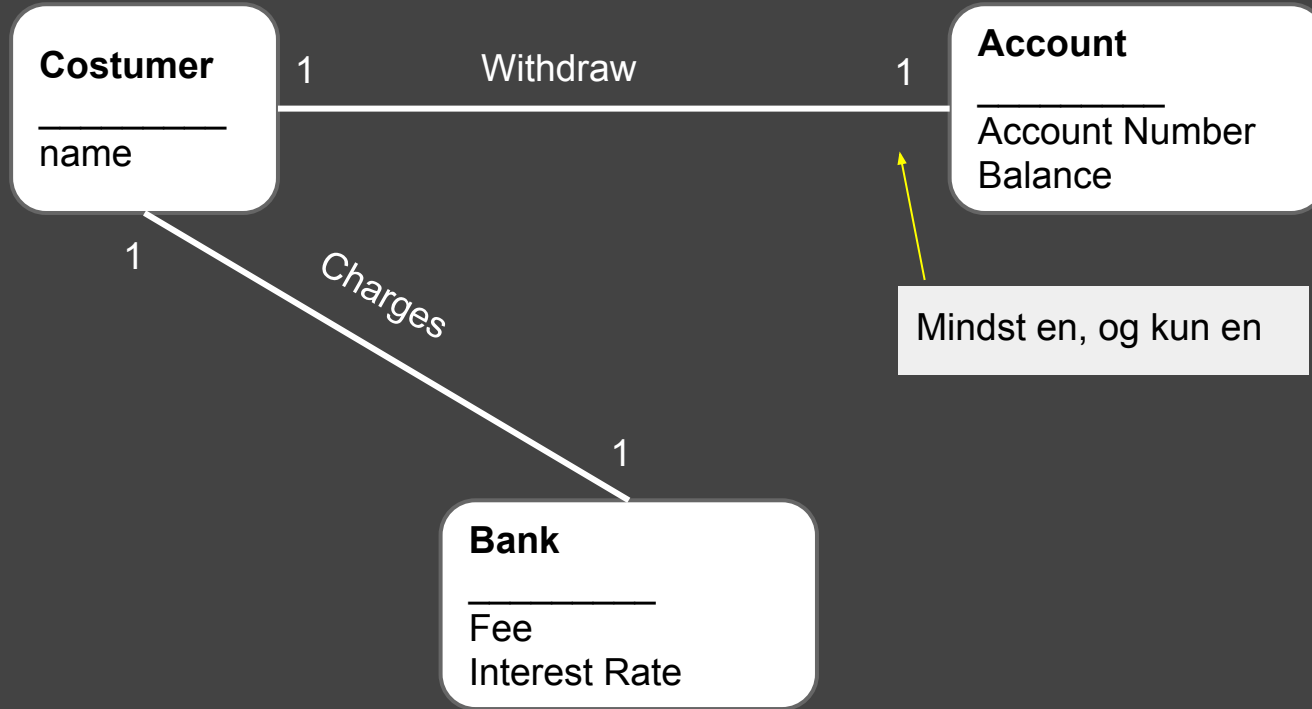
Domain Model



Customer
+name : string
+getName() : string +display() : string

Account
-accountNumber -balance
+deposit() +withdraw() +getAccountNumber() +checkBalance()

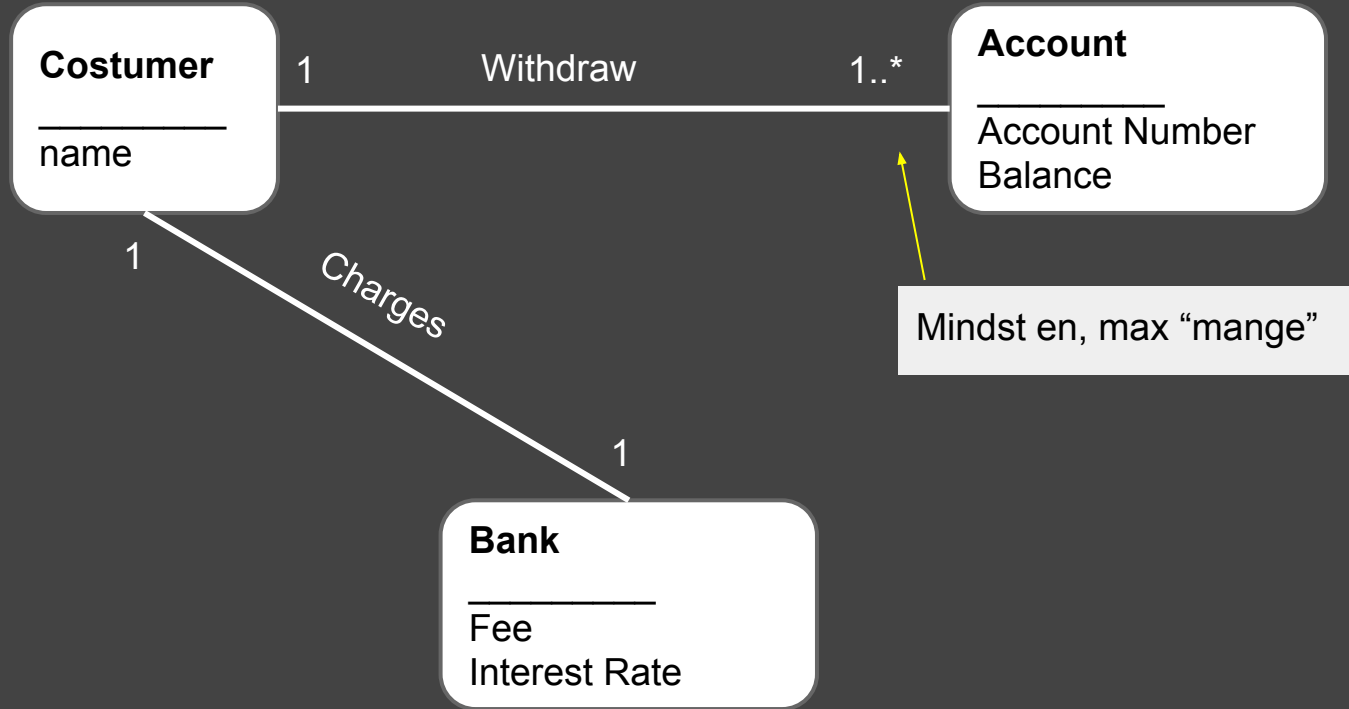
Domain Model



Klassediagram 1-1 forbindelse

Kode 1-1 forbindelse

Domain Model - En til mange



Klassediagram 1-* forbindelse

Kode 1-* forbindelse

Use Cases

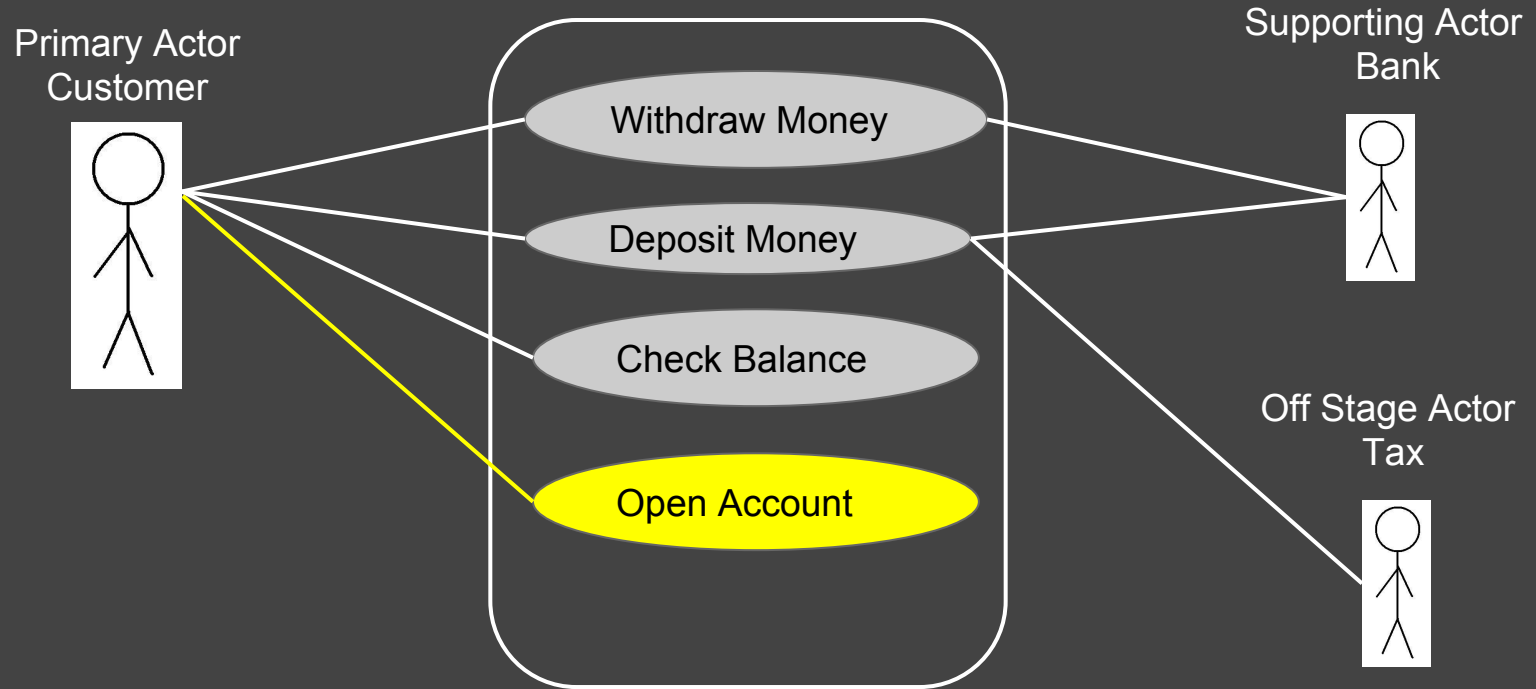
Functional requirements: FURPS+

A customer opens a bank account in a bank.

or

A customer opens one or more bank accounts in a bank.

Use Case Diagram



Use Cases

UC#3: Open Account

Actor: Customer

Main Success Scenario:

Customer enters the bank and requests to open an account. The Bank deals with this request ... (according to the bank regulations and rules). Customer now has an account and can [Withdraw](#), [Deposit](#) and [Check](#) balance of his account.

Alternative Flow:

1. If customer already have an account the banks rules and regulations differ. (description of that). The customer now have 2 accounts, and pays 100kr a year for having this extra account.
2. If customer earlier have applied for an account and was rejected the request. The bank looks at the reason and checks if the situation changed. If not the customer is again rejected. If changes has occurred goto Main Success Scenario.